MAGTF Communications

BGen George J. Allen,
Director C4 & CIO of the Marine Corps

5 May 2009

Selected MAGTF Implications

- **Expeditionary Headquarters**
- Enhanced intelligence systems
  - Persistent surveillance over an extended but densely complex operational environment
  - Advanced ISR sensors linked to users at all echelons
  - **Integrated C2 & ISR capabilities down to the squad level**
- MAGTF **communications infrastructure must be** resilient and **protected from cyber attack**
- Improved fires and maneuver capabilities
  - Coordinated, precise fires from ground, air, and naval surface fire support platforms
  - Must rapidly and precisely engage fleeting targets
- Unmanned aircraft systems (UASs)
  - provide force-multiplying capabilities, fostering transformational advancements in battlespace command and situational awareness
- Develop Aviation C2 systems - fuse C2, sensor, weapons data, and information to provide a true COP

from MCV&S 2025

Principle Force Implications

- Fully enable decentralized MAGTF operations
  - Organize and train for disaggregated MAGTF op
  - **C2 & ISR to the lowest tactical level**
  - Discriminate and responsive fires
- Enhance tactical mobility all domains
  - Protected ground maneuver
  - **Significantly lighten the combat load**
- Increase effectiveness in the Information Environment
  - **Information Operations – 7th warfighting function**
  - Roles functions and responsibilities – institution support
  - Cultural terrain

Networking the Future MAGTF

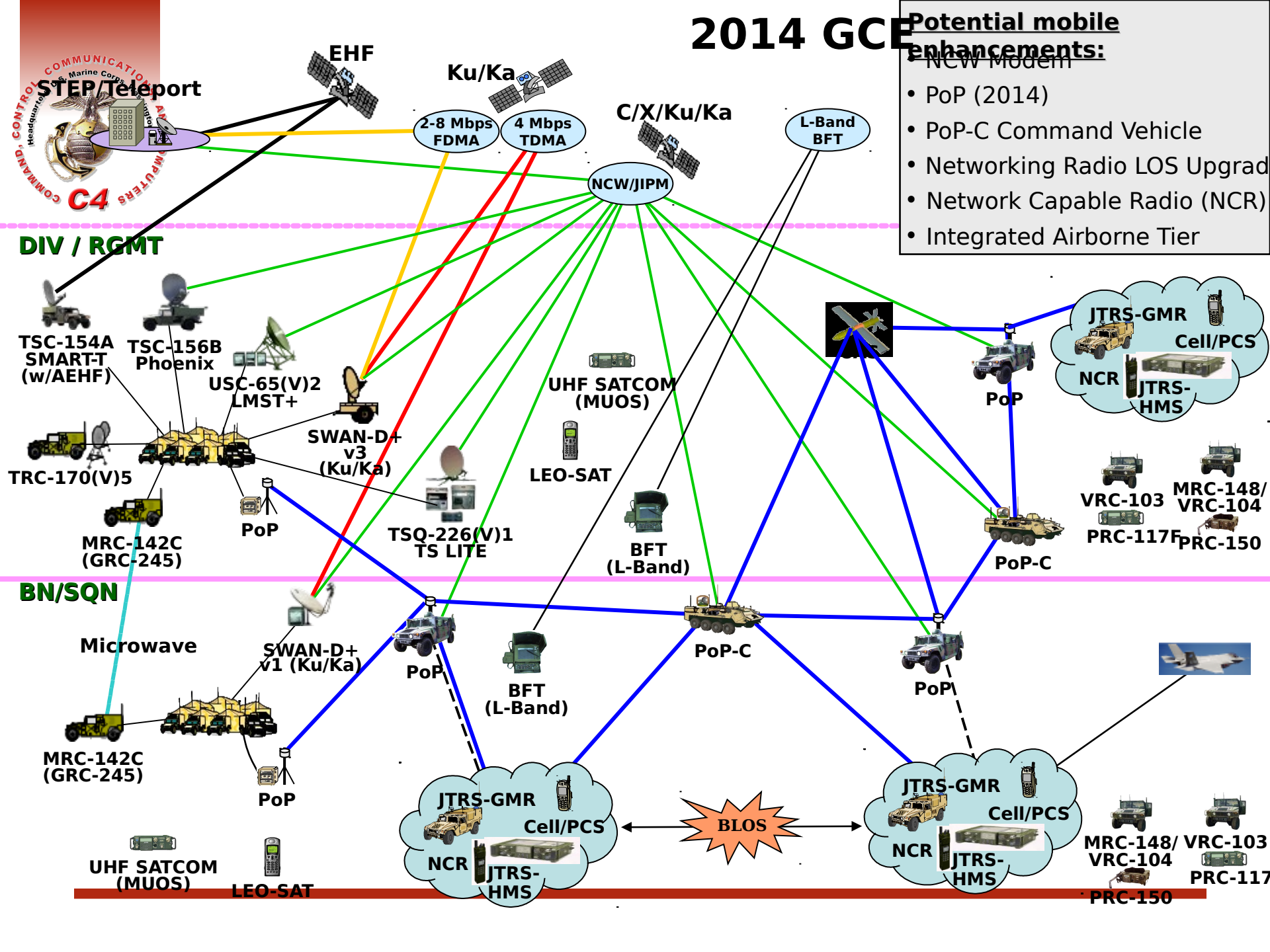
Network focused on decision

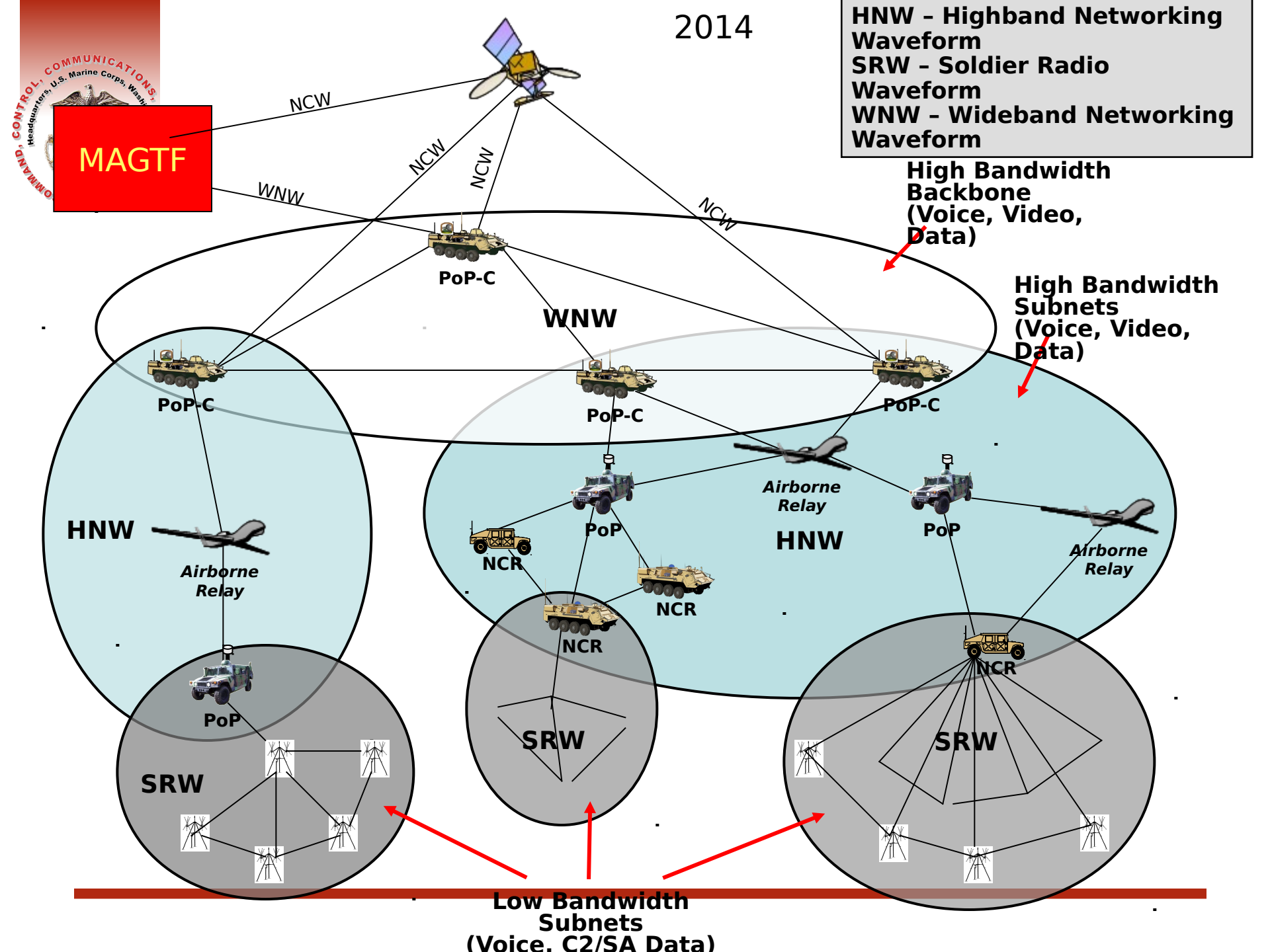
- Integrates essential technologies into a single system focused on the ground warfighter

Migrate to a fully net-enabled, distributed and democratized environment where capabilities and information are available to any node at any time

- Support machine-to-machine communication
- Each node collaborates as customer, provider, or both
- Scalable and upgradeable
- Open architecture, IP based, and using standard protocols

Taken from AVN/APW bri


2014 GCE
Potential mobile enhancements:
NCW Modem
PoP (2014)
PoP-C Command Vehicle
Networking Radio LOS Upgrad
Network Capable Radio (NCR)
Integrated Airborne Tier
STEP/Teleport
EHF
Ku/Ka
2-8 Mbps FDMA
4 Mbps TDMA
C/X/Ku/Ka
L-Band BFT
NCW/JIPM
DIV / RGMT
TSC-154A SMART-T (w/AEHF)
TSC-156B Phoenix
USC-65(V)2 LMST+
SWAN-D+ v3 (Ku/Ka)
TRC-170(V)5
MRC-142C (GRC-245)
PoP
TSQ-226(V)1 TS LITE
UHF SATCOM (MUOS)
LEO-SAT
BFT (L-Band)
PoP
JTRS-GMR
Cell/PCS
NCR
JTRS-HMS
VRC-103
MRC-148/ VRC-104
PRC-117F
PRC-150
PoP-C
BN/SQN
Microwave
SWAN-D+ v1 (Ku/Ka)
PoP
BFT (L-Band)
PoP-C
PoP
MRC-142C (GRC-245)
PoP
JTRS-GMR
Cell/PCS
NCR
JTRS-HMS
BLOS
JTRS-GMR
Cell/PCS
NCR
JTRS-HMS
MRC-148/ VRC-104
VRC-103
PRC-117
PRC-150
UHF SATCOM (MUOS)
LEO-SAT


2014
HNW – Highband Networking Waveform
SRW – Soldier Radio Waveform
WNW – Wideband Networking Waveform
MAGTF
NCW
NCW
NCW
NCW
WNW
High Bandwidth Backbone (Voice, Video, Data)
High Bandwidth Subnets (Voice, Video, Data)
PoP-C
PoP-C
PoP-C
PoP-C
WNW
HNW
Airborne Relay
HNW
Airborne Relay
Airborne Relay
PoP
PoP
PoP
NCR
NCR
NCR
NCR
SRW
SRW
SRW
Low Bandwidth Subnets (Voice, C2/SA Data)

Aerial Layer

- Connecting Marines
  - RF/Voice first, then networking
  - Mobile comms/C2
- Extending the tactical network
  - Networked radios
  - Battlespace video/ISR
- Enabling sensor-to-shooter communications

Excerpts from the Marine UAS Plan

Unmanned aircraft systems (UAS) enable Marines to increase the effectiveness of our air-ground team … [and] will continue to widen and add depth to our aviation support by capitalizing on current and future technologies. **Future UAS will expand to provide support in other Marine Aviation functions beyond aerial reconnaissance.**

Concepts

Battalion level-units will use the smaller Tier I systems as an organic reconnaissance and surveillance capability. The VMU squadrons will employ the larger and more-complex Tier II and III systems via a common Ground Control Station (GCS) to provide task-organized support to various MAGTFs. Greater capability will be resident in the **Tier III system**, and it **will include such support as** targeting, strike, intelligence collection, electronic attack, **data networking, and communications relay.**

Capabilities

Command and control is currently being augmented through **a radio relay capability with our Shadow UAS.** The **development and addition of systems** such as CORPORAL **will increase access to command data networks.**

from AVPLAN 2009